STUDY OF ESOPHAGEAL MOTILITY DISTURBANCES POST SCLEROTHERAPY

A SCINTIGRAPHIC STUDY

THESIS

SUBMITTED IN PARTIAL FULFILLMENT FOR THE MASTER DEGREE M.Sc.

(Internal medicine)

BY

SAYED ALY MOHAMED GAD (M.B.B.CH.)

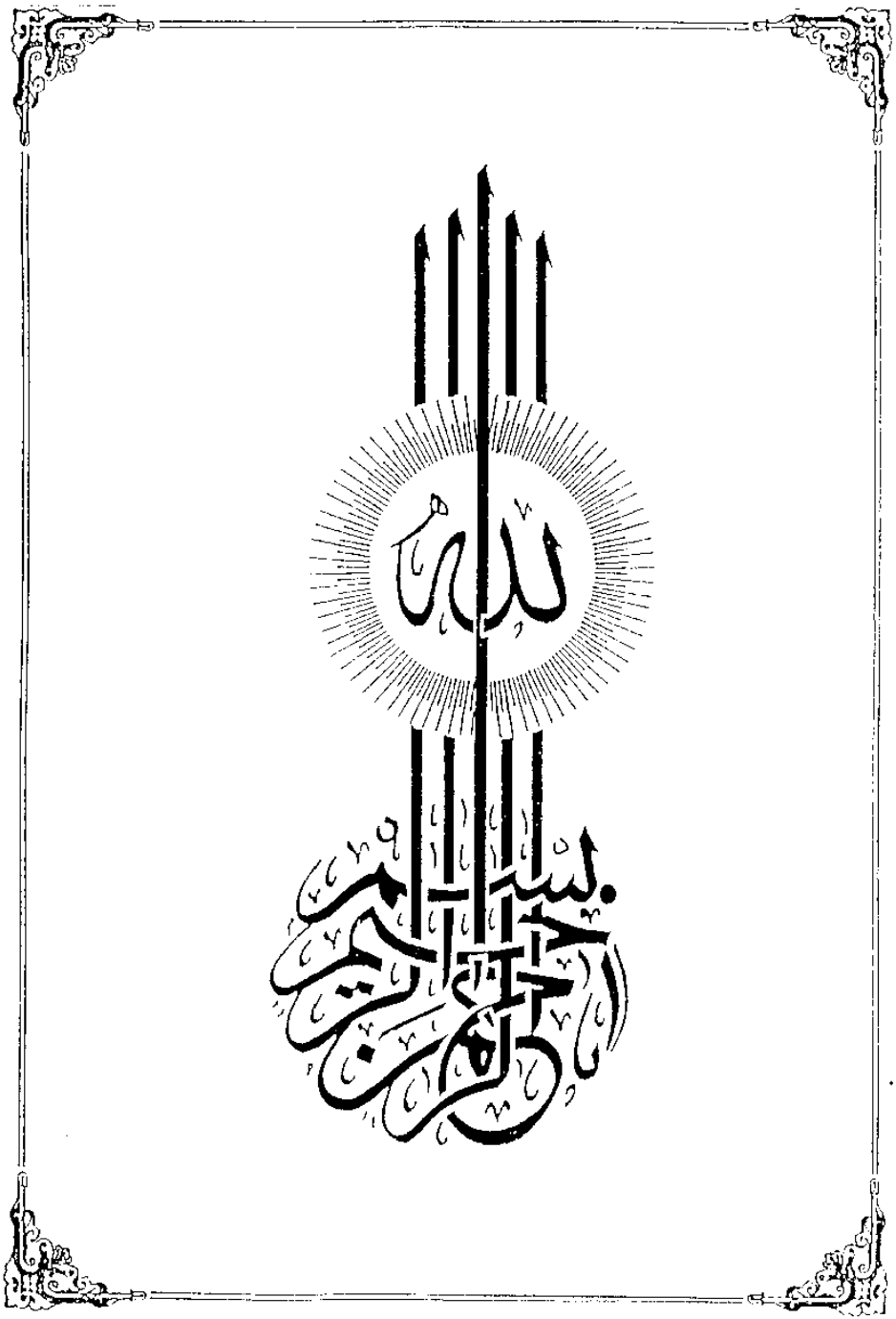
SUPERVISED BY

Prof.Dr.\MAZEN IBRAHIM NAGA
Ass.Prof. of:
INTERNAL MEDICINE
CAIRO UNIVERSITY

Prof.Dr.SHAWKI EL-HADAD
Chairman and Professor of:
RADIOTHERAPY
CAIRO UNIVERSITY

Dr.
HADI GOUBRAN
Lecturer of INTERNAL MEDICINE
CAIRO UNIVERSITY

بسم الله الرحمن الرحيم



TO MY MOTHER

AND MY UNCLE

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INTRODUCTION

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Endoscopic sclerotherapy is becoming widely applied for the treatment of bleeding esophageal varices. The process, however is not without complications and dysphagia and esophageal motility disturbances have been reported (Shuman et al., 1987).

The effect of sclerotherapy on esophageal motility is controversial. Reilly et al., (1987), claimed that motility can be markedly impaired following sclerotherapy especially when a fibrotic response results in stricture. On the other hand, Laurence et al., (1985) concluded in a large trial that motility in generally well preserved following endoscopic variceal injection with no long-lasting disturbances of swallowing.

Louis et al., (1991) studied 13 patients and concluded that injection of sclerosing material into the esophagus leads to acute impairment of motility but motor function is partly restored after 4 weeks of completion of the procedure.

Esophageal motility can be studied using conventional radiographic techniques. More recently, radionuclide transit scintigraphy using liquid and semiliquid 99m-Tc labeled

material offered a safe accurate alternative (Holloway et al., 1989). The technique can even quantitate reflux and other motility disturbances (Soni et al., 1990).

AIM OF THE WORK

The aim of the work is to assess the oesophageal motility following injection of oesophageal varices with sclerosing material at various timing following the completion of the procedure.

VIEW OF LITERATURE

ANATOMY OF THE ESOPHAGUS

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I-HISTOLOGY:

The esophageal wall is formed of four layers: an external or fibrous, a muscular, a submucous and an internal or mucous.

1) The mucous layer: is thick, reddish in colour above and pale below. The epithelium of the esophagus is non-keratinizing stratified squamous epithelium. A typical basement membrane separates it from the connective tissue lamina propria which contains a small compound racemose gland of the mucous type in the extremities of esophagus (Warwick and Wiliams, 1989). At the gastroesophageal junction, the stratified squamous epithelium of the esophagus is abruptly succeeded by the simple columnar epithe lium of the stomach. The junction is visible to the naked eye in fresh preparations as a created line, the grayish pink, smooth, esophageal contesting with the red, mamillated gastric mucosa.

2) Submucosa:

Below the muscularis mucosa.It is dense composed of both elastic and collagen fibres. In both the lamin propria and the submucosa are scattered lymphatics (Pelot, 1985).

3) Muscular coat:

Is composed of the usual two layers, an outer longitudinal and an inner circular stratum. There is no muscular thickening at the lower end of the esophagus i.e. there is no anatomical sphincter although there is a physiological One. the myentric (Auerbach's) plexus is situated between the muscle layers (Warwick and Wiliams, 1989).

4) Adventitial Coat:

The outmost covering of the esophagus is the adventitial or fibrous coat loosely arranged to allow for expansion during swallowing. At the Diaphragmatic hiatus, the adventitial attaches the esophagus to the margins of the opening, this attachment being known as Phrenico-esophageal ligament (McMinn. 197A).

GROSS ANATOMY

It descends anterior to the vertebral column through the superior and posterior mediastinum, passes through the esophageal orifice of the diaphragm situated 2.5 cm to the left of the middle line at the Level of 10th thoracic vertebra and ends at the Cardiac orifice of the stomach at the level of 11th thoracic vertebral. the lumen of the

esophagus tends to be larger in the lower half,with the most distal portion of it immediately above the diaphragm usually being the largest.

The diameter of the esophagus is usually 1.5 to 2.5 cm. (Pelot, 1985). The esophagus can be divided into cervical (5cm), thoracic (33.75cm) & abdominal (1.25 cm) parts.

a) The cervical esophagus

The cervical part has the following relations; In front, lies the trachea, to the posterior membranous wall of which it is attached by loose connective tissue. The recurrent laryngeal nerves ascend, one on each side, slightly in front of the groove between the trachea and esophagus behind. It lies on the vertebral column, the longus colli and the prevertebral layer of the deep cervical fascia. Laterally, on each side, lie the corresponding common carotid artery and the positive Part of the lobe of the thyroid gland, in the lower part of the neck where the esophagus projects to the left side, it has a close relation to the carotid sheath & the thyroid gland on the right side. The thoracic duct ascends for a short distance along the left edge of the esophagus (Warwick and Wiliams, 1989).